REPORT OF THE
JOINT SUBCOMMITTEE STUDYING

The Increased Mortality Rate and The Increased Rate of Certain Types of Cancer Among Firefighters

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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Authority and Study Objectives

Adopted by the 1992 Session of the General Assembly, House Joint Resolution No. 47 established a joint subcommittee to study the increased mortality rate and the increased rate of certain types of cancer among firefighters. The resolution directed the subcommittee to review work-related health risks and to examine presumptive cancer laws in other states "to determine if such legislation would be beneficial to the citizens of the Commonwealth." In conducting its study, the joint subcommittee reviewed a wide range of issues, including basic workers' compensation law and its application to public safety personnel; current initiatives benefiting public safety personnel and other workers in high health-risk jobs; the link between long-term exposure to carcinogens and increased health risks; and methods of preventing or ameliorating this exposure. Current national and Virginia-specific data documenting mortality and cancer rates among firefighters and comparison of these rates to the general population and other public safety personnel also merited subcommittee consideration. In addition, the joint subcommittee examined the disposition of claims received by the Virginia Workers' Compensation Commission for presumptive coverage. Finally, review of presumptive cancer coverage legislation in other states was necessary to assess accurately the feasibility and appropriateness of enacting similar legislation in Virginia.

Coverage of Job-Related Illness for Firefighters in the Commonwealth

Responding to life-threatening situations is inherent in firefighting. In 1991 alone, Virginia firefighters responded more than 154,000 emergency calls; fire service casualties totaled 299. While entry into burning buildings and rescue efforts directly place firefighters in jeopardy, exposure to unseen carcinogenic substances, largely due to the countless new synthetic materials found throughout society, has elevated cancer to a major occupational hazard for firefighters. Protective gear and clean-up protocol, may not, however, ensure the health and safety of firefighters. Some localities cannot afford the expensive special suits to ward off the effects of chemical spills and toxins, and even when protective gear is available, a lack of concern or awareness of unseen chemical hazards may prompt some firefighters to neglect to wear their masks and other gear in an emergency or in the overhaul of debris after a fire. With or without protective gear, firefighters may nonetheless be exposed to numerous potent toxins.

Establishing a clear link between exposure to these substances and disease remains a difficult task, as the disease may not appear for many years following exposure. Although recent studies have questioned methods of assessing the potential toxicity of certain substances, research continues to show causal relationships between exposure to specific materials and cancer and other disease. While many studies of toxic materials involve the use of laboratory animals, there are some human epidemiologic data supporting contentions of carcinogenic effects. Data specifically detailing firefighter exposure to carcinogens and subsequent disease or death, however, are somewhat limited. While research has indicated that the mortality rate of firefighters is four times that of workers in the private sector and that firefighters may be more likely to develop certain types of cancer, Virginia-specific data is necessary to assess more accurately the risks encountered by firefighters in the Commonwealth.

Providing benefits for public safety personnel injured through job-related activity is a long-standing practice in Virginia. Local governing bodies possess discretionary authority to provide monetary relief for officials, employees, policemen, firefighters, and other personnel who suffer injury. Further, localities operating firefighting equipment may provide relief for dependents and

spouses upon the death of a firefighter and are statutorily required to provide compensation for any firefighter who is disabled by injury or illness as the direct or proximate result of the performance of his duty. The Commonwealth offers benefits to firefighters under the Virginia Line of Duty Act and also provides free undergraduate tuition to a surviving child or spouse.

Perhaps the most familiar relief program is created by the Virginia Workers' Compensation Act, which authorizes recovery for certain employees for injuries and diseases arising out of and in the course of employment. Questions and disputes regarding compensation for job-related injuries and disease may be settled by the agreement of the interested parties with the approval of the Workers' Compensation Commission. Statutorily directed to adjudicate issues and controversies relating to workers' compensation coverage, the three-member Commission received nearly 60,000 major claims for coverage in 1991.

The Virginia Worker's Compensation Act already specifically contemplates coverage for firefighters. Under current law, firefighters seeking recovery under workers' compensation may pursue two avenues: by showing an injury by accident or a disease arising out of and in the course of employment. Medical evidence is critical to establish the requisite causative link between the claimed disability and the work environment. The challenge of proving causation is often difficult, however, and may be further exacerbated by the various interpretations scientists, medical doctors, and jurists may attach to the term.

Recognizing this challenge, many states, including the Commonwealth, have adopted statutes providing presumptive coverage for certain classes of employees. In Virginia, salaried and volunteer firefighters suffering from heart or respiratory disease or hypertension are presumed to have contracted these conditions from the workplace for purposes of obtaining workers' compensation. This presumption may be rebutted by the employer by a preponderance of competent evidence. Special compensation statutes for firefighters have gained support in over 20 states. In fourteen states, this evidentiary tool has been broadened to include cancer in firefighters. Coverage under these statutes is often contingent upon a showing that the cancer is of a kind resulting from exposure to a known or suspected carcinogen.

Conclusion

For the Virginia firefighter seeking workers' compensation for certain cancers not presently granted presumptive coverage, the challenge of proving causation may seem insurmountable. Although various cancers induced by work-related exposure to carcinogens may indeed merit recovery under current law, without the benefit of presumptive coverage, some firefighters may be discouraged from pursuing valid claims. Statistics directly linking firefighting to specific forms of cancer remain somewhat controversial, and Virginia-specific data addressing this issue are limited. Determining the appropriateness and feasibility of extending the current presumption to certain cancers in firefighters necessitates further examination of additional, specific data linking cancer and firefighter exposure to carcinogens; consideration of the appropriate weight to be accorded predisposing factors and conditions; review of Virginia Workers' Compensation Commission data regarding the number and outcome of firefighter cancer claims; and analysis of financial and policy implications for the Commonwealth and its public safety personnel. The joint subcommittee therefore makes the following recommendation:

RECOMMENDATION: *That the joint subcommittee studying increased mortality and cancer rates among firefighters in the Commonwealth be continued for one additional year.*

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Joint Subcommittee Studying the Increased Mortality Rate and the Increased Rate of Certain Types of Cancer Among Firefighters Pursuant to House Joint Resolution No. 47

I. Authority for Study

Adopted by the 1992 Session of the General Assembly, House Joint Resolution No. 47 (HJR 47) established a joint subcommittee to study the increased mortality rate and the increased rate of certain types of cancer among firefighters. The joint subcommittee was comprised of 10 members, including three members of the House of Delegates, appointed by the Speaker; three members of the Senate, appointed by the Senate Committee on Privileges and Elections; one representative each from the State Fire Chiefs Association of Virginia and the Virginia Association of Professional Firefighters, one representative of county government, and one representative of city government, appointed by the Governor. The resolution directed the subcommittee to submit its findings and recommendations to the Governor and the 1993 Session of the General Assembly.

II. Objectives and Study Design

Exposure to a wide range of toxic chemicals and known carcinogens is commonplace in firefighting; contact with these hazardous agents has been linked to a variety of cancers and may be responsible for high job-related fatalities among firefighters. Recognizing documented evidence of increased mortality and cancer rates among firefighters, the 1992 Session of the General Assembly adopted HJR 47 to establish a study of these work-related health risks and to examine presumptive cancer laws in other states "to determine if such legislation would be beneficial to the citizens of the Commonwealth." In conducting its study, the joint subcommittee reviewed a wide range of issues, including basic workers' compensation law and policy and its application to public safety personnel and current initiatives benefiting public safety personnel and other workers in high health-risk jobs. The subcommittee's study explored the long-term effects of firefighters' job-related exposure to toxic substances, the link between such exposure and increased health risks, and methods of preventing or ameliorating this exposure. Current national and Virginia-specific data documenting mortality and cancer among firefighters and comparison of these rates to the general population and other public safety personnel also merited subcommittee consideration. In addition, the joint subcommittee examined the disposition of claims received by the Virginia Workers' Compensation Commission for presumptive coverage. Finally, review of presumptive cancer coverage legislation in other states was necessary to assess accurately the feasibility and appropriateness of enacting similar legislation in Virginia.

III. Coverage of Job-Related Illness for Firefighters in the Commonwealth

Fire Protection in the Commonwealth: A Collaborative Effort

Firefighting in the Commonwealth combines the expertise and cooperation of individuals at the state, local, and volunteer levels. Originally established in 1978, the Virginia State Fire Services Commission was renamed the Department of Fire Programs in 1982, reflecting a legislative merger of the Commission and the Office of Fire Service Training. The Department is

the designated state agency to receive and disburse federal funds for fire protection.[1] Primarily responsible for "promoting the coordination of the efforts of fire service organizations at the state and local levels" is the Virginia Fire Services Board within the Department of Fire Programs. The 15-member Board is also charged to provide training assistance to local fire departments and volunteer fire companies and to study and develop alternative means of providing financial support for local fire departments.[2]

Localities are authorized to establish fire departments as departments of government, to provide for the compensation of fire department employees, and to enter into "mutual aid agreements" with other localities for fire services.[3] Currently, there are 587 local fire departments in the Commonwealth, and over 23,000 firefighters, of whom an estimated 68 percent are volunteers.[4] The efforts of local departments may be supplemented by volunteer fire companies, each comprised of no less than 20 persons. Localities may also contract with these volunteer companies for fire protection services;[5] calls answered by local departments and volunteer companies are supervised by the commander of the first unit to arrive.[6]

The Hazards of Firefighting: Hidden Toxins

Responding to life-threatening situations is inherent in firefighting. In 1991 alone, Virginia firefighters responded to more than 154,000 emergency calls; about one-half of these responses were to rescue calls, while nearly one-third addressed fires or hazardous conditions. In that same year, fire service casualties totaled 299. The majority of these reported injuries consisted of burns, bruises and lacerations, asphyxiation, and sprains. No firefighter deaths were reported for 1991. There were 616 injuries and 65 deaths among civilians.[7] While rescue efforts and entries into burning buildings directly place firefighters in jeopardy, a more insidious hazard may claim the health--and lives--of many firefighters. Exposure to carcinogenic substances, largely due to the countless new synthetic materials found throughout society, has elevated cancer to a "major

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1. Va. Code § 9-153 (1989). See also, Report of the Joint Subcommittee Studying Fire Prevention Services in the Commonwealth, Senate Document No. 16 (1989). The administration of fire protection in the Commonwealth has been the focus of numerous studies. In 1978, the Virginia Advisory Council on Fire Prevention and Protection recommended the formation of the Virginia State Fire Services Commission; the expansion and improvement of fire service training facilities and the creation of a statewide fire service training facility have also received scrutiny. Report of the Virginia Legislative Council on Fire Prevention and Protection, Senate Document No. 14 at 8 (1978); Report of the Virginia Advisory Council on Fire Service Training Facilities, House Document No. 15 (1977); Report of the Virginia Advisory Legislative Council on Volunteer Rescue Squads Headquarters and Statewide Fire Service Training Facility, Senate Document No. 19 (1975) [hereinafter referred to as Senate Document No. 19].
2. Va. Code § 9-153.1; 9-155 (1989 and 1992 Supp.).
3. Va. Code §§ 27-6.1; 27-2 (1992).
4. Virginia Department of Fire Programs, Virginia Fire Department Profile (June 1992); testimony of Marion A. Long, Information Systems Manager, Department of Fire Programs, September 8, 1992 committee meeting.
5. Va. Code §§ 27-8; 27-23.6 (1992).
6. Va. Code § 27-23.9 (1992).
7. Virginia Department of Fire Programs, 1991 Civilian and Fire Service Casualty Report (June 1992); testimony of Marion A. Long, Information Systems Manager, Department of Fire Programs, September 8, 1992 committee meeting.

occupational hazard" for firefighters.[8] The release of carcinogens, typically a byproduct of combustion, poses a risk to firefighters before as well as after a fire is extinguished.[9] Experts agree that "the variety of products made from synthetics almost assures that they will be present at every fire emergency, making it impossible to avoid at least some exposure."[10]

To combat not only intense heat and flames but also toxic fumes, firefighters don protective gear and self-contained breathing apparatus (SCBA). In addition, precautionary measures, such as cleaning outer gear or "turnouts," helmets, and other personal equipment, and fire vehicles to remove toxic contaminants and other residues are incorporated in post-fire procedures. Removing visible smoke residue may eliminate 96 percent of toxins. Reports have also indicated that clean gear is more fire resistant and will reduce the passive smoke that may be inhaled by families of firefighters.[11] Protective gear and clean-up "protocol," may not, however, ensure the health and safety of firefighters. Many localities cannot afford the expensive special suits to ward off the effects of chemical spills and toxins, and even when protective gear is available, a lack of concern or awareness of unseen chemical hazards may prompt some firefighters to neglect to wear masks and other gear in an emergency or in the overhaul of debris after a fire.[12]

With or without protective gear, firefighters may nonetheless be exposed to numerous potent toxins. While asbestos use is now controlled, a fire may destroy surrounding protective materials, resulting in exposure in extinguishing the fire and determining fire damage. Asbestos may also cling to outerwear, which can then be brought into the firefighter's home. Another dangerous substance, benzene, is released by burning synthetics, such as gasoline and certain glues and solvents. Creosote, present in certain tars and oils, may release toxins in fires involving wharves and other wooden structures. Finally, even the diesel fumes released by the fire engine itself may prove harmful to firefighters. [13]

Linking Exposure to Disease: Recent Studies

Establishing a clear link between exposure to these substances and disease has been the goal of a variety of studies. Researchers concur that "proving a chemical causes cancer is difficult, since the disease may not strike until years after the exposure."[14] Although recent studies have questioned methods of assessing the potential toxicity of certain substances,[15] research continues to show causal relationships between exposure to specific materials and cancer and other disease. Asbestos, benzene, vinyl chloride, and polycyclic aromatic hydrocarbons (tars), among other substances, have been associated with cancers of the liver, lung and lung lining, and skin, as well

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8. J. Giarrizzo, "Cancer and Firefighting," Fire Engineering 65 (September 1990) [hereinafter referred to as Giarrizzo]. See also, Senate Document No. 19 at 6, supra note 1.

9. L. Winney, "Passive Smoke: The Overlooked Risk," Fire Engineering 68 (September 1990) [hereinafter referred to as Winney].

10. Giarrizzo, supra note 8, at 66. According to Mr. Giarrizzo, there at least "43 known or suspected carcinogens from synthetic plastics alone."

11. Winney, supra note 9, at 68. See also, Giarrizzo, supra note 8, at 69.

12. Giarrizzo, supra note 8, at 69.

13. Id. at 66, 69. Studies show that benzene may be present in more than 90 percent of structure fires.

14. D. Thompson, "The Danger in Doomsaying," Time 61 (March 9, 1992).

15. Id.

as leukemia.[16] While many studies of toxic materials involve the use of laboratory animals, there are some human epidemiologic data supporting contentions of carcinogenic effects.[17]

Prompted perhaps in part by the increased use of synthetics in construction and a corresponding concern regarding carcinogenic exposure, numerous studies have examined firefighter mortality in recent years. Many of these studies incorporate reference groups from the general population and a police population to ascertain realistic expected mortality and cancer rates among firefighters, a group commonly deemed to be a "healthy worker population" due to the rigors of the job. Research efforts have yielded various and sometimes inconsistent results. The most frequently cited cancers among firefighters included those affecting the colon, bladder, and brain; however, some studies cited elevated rates for leukemia and other cancers. The studies typically contain some citation of "limitations"--those factors or research methodologies that may have resulted in study bias or variations from other studies:[18]

Massachusetts (1990). Based on research conducted by experts at the Department of Work Environment, University of Lowell, and the Occupational Health Surveillance Program, Massachusetts Department of Health, this study focused not on mortality rates, but rather on the incidence of nine types of cancer among firefighters, police, and a general population. Research was supported by the Massachusetts Cancer Registry, which collects data from hospitals and licensed clinics to form a mandatory reporting system for various cancer diagnoses. The study revealed increased firefighter risk for three specific cancers: melanoma; bladder cancer; and non-Hodgkin's lymphoma. The study specifically failed to reveal excess brain, lung, colon, or rectal cancers reported in other studies, but attributed this result to varying study methodologies, statistical differences, and random occurrence.[19]

New Jersey (1986). Using retirement records to obtain mortality data, this study examined cardiovascular and respiratory disease as well as cancer among firefighters and police. The report suggested that the various presumptive heart disease statutes effective in about 20 states may be based on "debatable" evidence and noted that "the overall mortality of these two work groups did not appear to differ markedly from that of the general population." Increased levels of skin cancer and cirrhosis were noted, however, among long-term firefighters and police officers; police exposure to prolonged hours outdoors and firefighter exposure to soots containing known carcinogens were deemed likely causes for these skin cancer rates. The study also specifically noted an increased firefighter risk for nonmalignant respiratory disease and leukemia.[20]

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16. IAFF, Department of Occupational Health and Safety, Summary of the Views on Occupational Cancer in Firefighters [hereinafter referred to as IAFF Summary I].

17. Id. at 1. Scientists may accelerate the process of determining carcinogenic effects in laboratory mice by administering the "maximum tolerated dose," typically an amount slightly less than a lethal amount. In tests on saccharine, mice were given the human equivalent of one hundred cans of soda a day; similar tests on Alar, the fruit-ripener, would require ingesting one thousand apples a day. If five out of 200 mice develop cancer in two years, the tested substance is generally labeled a carcinogen. Thompson, supra note 14.

18. Division of Legislative Services, staff memorandum, Summary of Studies and Data on Cancer Incidence in Firefighters (October 1992).

19. Bureau of Health Statistics, Research and Evaluations, Massachusetts Department of Public Health, Cancer Incidence Among Massachusetts Firefighters 1982-1986 (1990).

20. E. Feuer and K. Rosenman, "Mortality in Police and Firefighters in New Jersey," American Journal of Industrial Medicine 517 (1986).

Los Angeles, California (1982). Detailing cancer rates among firefighters and reference groups spanning four decades (1940-1980), data for this study was supplied by death certificates of Los Angeles firefighters. While firefighter life expectancy remained somewhat constant between 1940 and 1980, the percentage of cancer deaths increased from 20 percent to 30 percent in the mid-1970s. Cancer, arteriosclerosis, and other heart disease comprised 72 to 87 percent of all firefighter deaths between 1950 and 1980. The study concluded by citing an early cancer pattern for prostate and brain cancer, a late cancer pattern for colon, lung, and bladder cancer, and a "healthy worker" pattern for all other cancers, except leukemia. Noting the increased presence of toxic substances in construction and industry, the study concluded that further research was necessary to develop protective procedures and to assess more accurately "the significance of cancer in living firefighters."[21]

Seattle, Washington (1988). Comparing local firefighter data from the Seattle Fire Department with a white male U.S. population reference group, the study found that there was a small number of excess cancer deaths in the highest exposure and duration categories. The number of deaths due to cancer of the trachea, bronchus, and lung was slightly below expected rates. Lymphatic and hematopoietic cancer rates, however, were significantly higher than those of the general population. Overall mortality from brain cancer also showed no increase, but the recorded deaths established an unusual pattern, linking early exposure and disease.[22]

Northwest United States (1987 and 1991). Focusing on mortality rates for firefighters in Seattle, Tacoma, and Bellevue, Washington and Portland, Oregon, two studies compared firefighter data with police and U.S. male population reference groups. Both found that firefighters under age 40 displayed higher overall cancer rates, primarily evidenced in lymphatic, hematopoietic, and brain cancers. Data in the 1987 study indicated that the brain cancer rate seemed to be increasing. While the 1987 study recommended further review to determine the continuation of observed patterns, the 1991 study concluded that "further exploration" was necessary to determine firefighter risk of emphysema and other disease. Finally, the 1991 report indicated continued study of cancer rates using a regional tumor registry.[23]

Buffalo, New York (1987). Examining cancer rates in Buffalo firefighters employed between 1959 and 1979, this study found cancer mortality rates to be "significantly higher than expected" for firefighters employed 40 years or more. In this group, digestive cancer rates were three times higher; colon cancer rates five times higher; and bladder cancer rates six times higher. Brain cancer rates were four times higher among firefighters employed 20 to 29 years.[24]

Other firefighter statistics indicate that "reported deaths and forced retirements due to occupational-related disease are increasing at a startling rate."[25] Some experts have contended that these cancer and mortality rates may be deceptively low, as the rigors of firefighting demand

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21. Institute for Cancer and Blood Research, Cancer Mortality Among Los Angeles City Firefighters (1982).

22. N. Heyer, Cohort Mortality Study of Seattle Fire Fighters 1945-83 (1988).

23. L. Rosenstock, P. Demers, N. Heyer, and S. Barnhart, Harborview Occupational Medicine Program, University of Washington, Northwest Fire Fighter Mortality 1945-1983 (1987), and L. Rosenstock and P. Demers, Occupational Medicine Program, University of Washington, Northwest Firefighters Mortality Study: 1945-1989 (1991).

24. J. Vena, "Mortality of a Municipal-Worker Cohort: Fire Fighters," American Journal of Industrial Medicine 671 (1987).

25. Giarrizzo, supra note 8, at 65. Interestingly, some firefighter mortality studies have not found an increased risk of lung cancer. IAFF Summary I, supra note 16, at 2.

personnel be more physically fit than most workers, a phenomenon referred to as the "healthy worker effect."[26] While this research would seem to support a link between firefighter exposure to certain toxins and subsequent disease, Virginia-specific data is necessary to assess more accurately the risks encountered by firefighters in the Commonwealth.

Relief for Firefighters: Local and State Initiatives

Providing relief for public safety personnel injured through job-related activity is a long-standing practice in Virginia. Local governing bodies possess discretionary authority to "make allowances by appropriation of funds . . . for the relief of its officials, employees, policemen, fire fighters, sheriffs or deputy sheriffs . . . or their dependents, who suffer injury or death . . . ." The compensation is not to exceed the salary of the injured person and may not extend beyond the period of disability; death benefits are provided as permitted by the Workers' Compensation Act. Any amounts paid under a pension or retirement system or earned from other gainful employment are deducted from these allowances.[27] Further, localities operating firefighting equipment may provide relief for dependents and spouses upon the death of a firefighter and are required to provide relief for "any firefighter who is disabled by injury or illness as the direct or proximate result of the performance of his duty . . . ."[28]

Also entitled to death and disability benefits are volunteer firefighters, defined by the Code of Virginia as "members of any organized fire-fighting company which has in its possession and operates fire-fighting apparatus and equipment, whose members serve without pay and whose names have been duly certified by the secretary of such company as active members . . . ." Localities must pay $1,000 to the estate of any volunteer firefighter who dies while engaged in firefighting or en route or returning from a call; payments for partial and permanent disability may not exceed $25 a week for no more 10 and 40 weeks, respectively. Finally, the locality must pay "all necessary and proper medical, surgical, laboratory, and operating room charges" for these volunteers. Cities may raise funds for these services by a general property tax levy; counties may raise one-half of these funds from a general levy throughout the county and the other half by a general levy on the town or magisterial district in which the fire company is located on property subject to taxation for local purposes. [29]

The Commonwealth offers relief to firefighters under the Virginia Line of Duty Act, which entitles the beneficiary of certain public officials and safety personnel--specifically including members of fire companies or departments--whose death occurs as the direct or proximate result of the performance of his duty to a sum of $25,000.[30] Also authorized by the Commonwealth in

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26. IAFF Department of Occupational Health and Safety, Summary of the Views of Fire Fighter Mortality Studies at 1, 2 [hereinafter referred to as IAFF Summary II].

27. Va. Code § 15.1-134 (1989). The "injury or death" is tied to the definition in the Virginia Workers' Compensation Act, § 65.2-100 *et seq.*

28. Va. Code § 27-39 (1992). Relief for children and surviving spouses is not dependent upon recovery under the Virginia Line of Duty Act (Va. Code § 15.1-136 *et seq.*). In addition, § 27-40 of the Code of Virginia permits cities of the first class to continue the support of dependent children of firefighters who died in the line of duty until the dependent reaches age 16. The Code also provides for the reduction of benefits to injured firefighters who may earn other income during disability retirement. Va. Code § 27-40.4 (1992).

29. Va. Code §§ 27-41 through 47 (1992).

30. Va. Code § 15.1-136.1 *et seq.* (1989 and 1992 Supp.). The beneficiary must present a claim for payment to the chief officer of the department that employed the deceased, who in turn submits a request to the State Comptroller. The benefit is paid from general fund moneys. Va. Code §§ 15.1-136.4:1 (1989); 15.1

recognition of the sacrifices made by public safety personnel is free undergraduate tuition to a surviving child or spouse.[31]

Recovery under the Virginia Worker's Compensation Act

Perhaps the most familiar relief program is created by the Virginia Worker's Compensation Act. Originally enacted in 1918 and modeled after an Indiana statute, the Virginia act bases recovery not upon negligence but upon the agreement of the employee to surrender other recovery rights in exchange for compensation security in the event of a job-related injury or disability.[32] Deceptively simple in concept, Virginia workers' compensation law is actually a labyrinthine combination of statutory precedent and judicial interpretation. Simply stated, compensation is available to certain employees for injuries and occupational diseases "arising out of and in the course of employment."[33] The focus of repeated judicial review, this two-part formula has been liberally construed to require a causal connection between the injury or disease and the employment. Courts have tied "arising out of" to a showing of the origin of the disease or injury, while "in the course of" typically refers to the time, place, and circumstances surrounding the injury.[34] Not surprisingly, application of this sometimes ambiguous test has resulted in seemingly inconsistent judicial holdings.[35]

An employee seeking workers' compensation must first supply written notice to his employer of an accident or a diagnosis of disease. Notice of an occupational disease must be given within 60 days after the diagnosis is first communicated to the employee; however, failure to give notice will not deprive the employee of his cause of action if there is a "reasonable excuse" and it is shown that the failure resulted in no clear prejudice to the employer. Claims for occupational diseases must be filed with the Commission within two years after the diagnosis is communicated to the employee, or within five years of the last injurious exposure in employment, whichever first occurs. Different statutes of limitations are set forth for filing claims for certain specific diseases, such as pneumoconiosis.[36] Notice of an accident is to be given "immediately upon the occurrence of an accident or as soon thereafter as practicable." Claims for job-related accidents are subject to a two-year statute of limitations. Questions and disputes regarding compensation for job-related injuries and disease may be settled by the agreement of the interested parties with the approval of

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136.5:1 (1992 Supp.). The 1990 Session of the General Assembly increased the award from $10,000 to $25,000. 1990 Acts of Assembly, ch. 43.

31 Va. Code § 23-7.1:01 (1992 Supp.). The child or spouse must have been offered admission to a public institution of higher education in the Commonwealth.

32. Va. Code § 65.2-100 *et seq.* (1991 and 1992 Supp.). See also, Note, "The Ordinary Disease Exclusion in Virginia's Workers' Compensation Act: Where Is It Going After Ashland Oil Co. v. Bean?" 18 U. Rich. L. Rev. 161, 162 (1983) [hereinafter referred to as Ordinary Exclusion].

33. Va. Code §§ 65.2-101; 65.2-400 (1991 and 1992 Supp.). The statute is very clear that a compensable "injury" does not include "a disease in any form, except when it results naturally and unavoidably from either of the foregoing causes [injury by accident or occupational disease]."

34. See generally, Metcalf v. A.M. Express Moving System, 230 Va. 464, 339 S.E.2d 177 (1986); Grand Union Co. v. Bynum, 226 Va. 140, 307 S.E.2d 456 (1983); Baggett Transportation Co. v. Dillon, 219 Va. 633, 248 S.E.2d 819 (1978).

35. See generally, Graybeal v. Montgomery Co., 216 Va. 77, 216 S.E.2d 52 (1975); Hill City Trucking Co., Inc. v. Christian, 238 Va. 735, 385 S.E.2d 377 (1989); Thore v. Chesterfield Co., 10 Va. App. 327, 391 S.E.2d 882 (1990).

36. Va. Code §§ 65.2-600, 65.2-601; 65.2-405 (1991); 65.2-406 (1992 Supp.).

the Workers' Compensation Commission.[37] Statutorily directed to "adjudicate issues and controversies" relating workers' compensation coverage, the three-member Commission received nearly 60,000 major claims for coverage in 1991 alone.[38]

Qualifying employees are entitled to a defined "average weekly wage" payable by the employer from workers' compensation insurance. Employers are required to maintain workers' compensation insurance through an authorized insurance carrier, as a certified self-insured employer, or by membership in a group self-insurance association licensed by the State Corporation Commission. The Uninsured Employer's Fund, supported by taxes assessed on insurance carriers, makes payments when an employer fails to compensate an injured employee.[39] Depending upon the injury or disability, the employee may receive as much as 66.67 percent of an average weekly wage, subject to a statutory maximum, up to 500 weeks for total incapacity and 66.67 percent of the difference between his average weekly wage prior to injury resulting in partial incapacity and the average wages he can earn after the injury. The Act also includes detailed compensation provisions for permanent total and partial loss and disfigurement.[40]

Specific Relief for Firefighters Under Workers' Compensation

Workers' compensation coverage for special classes of employees is not without precedent in Virginia law. The Act recognizes claims by coal miners for pneumoconiosis ("black lung"),[41] and specifically contemplates workers' compensation coverage for firefighters, who are deemed employees of the localities paying their salaries. Volunteer firefighters and other rescue personnel are also eligible for coverage if the local governing body has acknowledged them as employees for the purposes of workers' compensation eligibility. Approximately 1,400 volunteer firefighters have been so recognized by local governments. The Act specifically insulates employers from liability for volunteer firefighters who answer a call during work hours, regardless of whether the volunteer is paid for his time away from the job.[42]

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37. Va. Code §§ 65.2-700; 65.2-701 (1991). The purpose of the Act is not to prevent settlements, "but to encourage them so long as the amount of compensation and the time and manner of payment are approved by the Commission."

38. Va. Code § 65.2-201 (1991). Members are chosen by a joint vote of the two houses of the General Assembly and serve six-year terms. To ensure staggered terms of office, one member is chosen in each even-numbered session of the General Assembly. Va. Code § 65.2-200 B (1991). See also, Virginia Workers' Compensation Commission, Claims by Nature of Injury--1991 [hereinafter referred to as WCC Claims]. The majority of these claims appears to be injuries by accident.

39. Va. Code §§ 65.2-800, 65.2-801; 65.2-1200 *et seq.* (1991 and 1992 Supp.).

40. Va. Code §§ 65.2-500 through 65.2-503 (1991).

41. Va. Code § 65.2-504 (1991). Although a 1981 legislative study specifically recommended special statutory treatment for byssinosis ("brown lung"), contracted through inhalation of cotton dust, the ailment is simply included in §§ 65.2-406 and 65.2-503, among statutes of limitations and permanent loss provisions. Report of the Joint Subcommittee Studying Compensation for Byssinosis Victims, House Document No. 8 at 7 (1981).

42. Va. Code § 65.2-101 (1992 Supp.). In addition, volunteer firefighters serving an state institution of higher education or responding to a hazardous materials incident at the request of the Department of Emergency Services are eligible for worker's compensation. Volunteers not covered by workers' compensation are covered by disability policy that provides medical benefits and wage replacement. Testimony of Margie Nichols, Virginia Municipal League, December 9, 1992 committee meeting.

Virginia Workers' Compensation Claims By Nature of Injury - 1991

Nature of Injury	Number of Claims	% of Total
AIDS Exposure	12	0.02%
Amputation	312	0.52%
Angina Pectoris	1	0.00%
Asbestosis	56	0.09%
Black Lung I	435	0.73%
Black Lung II	10	0.02%
Black Lung IV	2	0.00%
Burn	1,089	1.82%
Cancer	5	0.01%
Carpal Tunnel Syndrome	781	1.30%
Concussion	188	0.31%
Contagious Disease	8	0.01%
Contusion	3,622	6.04%
Crushing	455	0.76%
Dermatitis	3	0.01%
Dislocation	685	1.14%
Dust Disease - NEC	4	0.01%
Electric Shock	94	0.16%
Fatal Asbestosis	2	0.00%
Fatal Burn	3	0.01%
Fatal Crime Victim	6	0.01%
Fatal Crushing	9	0.02%
Fatal Drowning	4	0.01%
Fatal Electric Shock	7	0.01%
Fatal Fracture	13	0.02%
Fatal Heart & Lung - Fireman	4	0.01%
Fatal Heart & Lung - Police	4	0.01%
Fatal Heart Attack	3	0.01%
Fatal Heart Prostration	1	0.00%
Fatal Injury NEC	76	0.13%
Fatal Laceration	1	0.00%
Fatal Myocardial Infarction	14	0.02%
Fatal Puncture	4	0.01%
Foreign Body	533	0.89%
Fracture	6,369	10.63%
Freezing	6	0.01%
Hearing Loss - Traumatic	32	0.05%
Heart & Lung - Firemen	43	0.07%
Heart & Lung - Police	78	0.13%
Heart Attack	1	0.00%
Heat Prostration	62	0.10%
Hernia	847	1.41%
Infection	290	0.48%
Inflammation	2,857	4.77%
Injury NEC	15,478	25.82%
Laceration	4,730	7.89%
Loss Of Hearing	124	0.21%
Mental Disorder	2	0.00%
Myocardial Infarction	67	0.11%
Occupational Disease - NEC	20	0.03%
Other Cumulative	33	0.06%
Poisoning - Chemical	4	0.01%
Poisoning - Metal	2	0.00%
Prosthesis	37	0.06%
Puncture	648	1.08%
Respiratory Disorders	5	0.01%
Rupture	611	1.02%
Severance	106	0.18%
Sexual Assault	5	0.01%
Silicosis	2	0.00%
Sprain	5,774	9.63%
Strain	13,174	21.98%
Vascular	41	0.07%
Victim Of Crime	48	0.08%
Vision Loss	6	0.01%
Total	59,943	100%

Source: Virginia Workers' Compensation Commission (May 1992)

Under current law, firefighters seeking recovery under workers' compensation may pursue two avenues: by showing an injury by accident or an occupational disease arising out of and in the course of employment. Compensable injuries must be traceable to an identified accident occurring at some "reasonably definite time" and must be supported by evidence of "sudden structural change" in the claimant's body.[43] Injuries aggravating a preexisting condition by an accident may also be compensable.[44] The Virginia Supreme Court has consistently held, however, that injuries resulting from repetitive trauma or cumulative events are not compensable under the Act.[45] The claimant must also show that the injury arose out of and in the course of the employment.[46]

While establishing an "injury by accident" is not a simple evidentiary task, satisfying the statutory definition of an occupational disease is arguably even more complex. Formerly detailed in a statutory schedule of ailments[47], an occupational disease is now defined as "a disease arising out of and in the course of employment, but not an ordinary disease of life to which the general public is exposed outside of the employment." Accompanying this definition are six requirements: the disease will be deemed to be occupational "only if . . . [it] is apparent to the rational mind, upon consideration of all the circumstances:"

> (1) a direct causal connection exists between the disease and the work performed;
>
> (2) the disease follows as a "natural incident" of the work as a result of exposure "occasioned by the nature of the employment;"
>
> (3) can be "fairly traced" to the employment as a proximate cause;
>
> (4) the disease is not one to which the employee may have had "substantial exposure" outside the employment;
>
> (5) is "incidental to the character of the business;" and
>
> (6) the disease had its "origin in a risk connected with the employment and flowed from that source as a natural consequence . . . ."

The risk of the disease need not have been "foreseen or expected."[48]

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43. Va. Code § 65.2-101 (1992 Supp.). See Badische Corp. v. Starks, 221 Va. 910, 275 S.E.2d 605 (1981); VEPCO v. Cogbill, 223 Va. 354, 288 S.E.2d 485 (1982). The Virginia Supreme Court has ruled that inhalation of poisonous gases may be an "injury by accident;" however, a common law action for damages may be the appropriate remedy when inhalation occurred over a gradual or prolonged period of time. Aistrop v. Blue Diamond Coal Co., 181 Va. 287, 24 S.E.2d 546 (1943).

44. See Pendleton v. Flippo Constr. Co., 1 Va. App. 381, 339 S.E.2d 210 (1986); Olsten of Richmond v. Leftwich, 230 Va. 317, 336 S.E.2d 893 (1985).

45. See generally, Morris v. Morris, 238 Va. 578, 385 S.E.2d 858(1989); Door Systems, Inc. and Erie Ins. Exchange v. Hood, 238 Va. 578, 385 S.E.2d 858 (1989); Pittsburgh Plate Glass v. Totten, 238 Va. 578, 385 S.E.2d 858 (1989). But see Brown v. Caporaletti, 12 Va. App. 242, 402 S.E.2d 709 (1991).

46. Va. Code § 65.2-101 (1992 Supp.).

47. Ordinary Exclusion, supra note 32, at 163. The schedule was apparently adopted to avoid creating a broad workers' health insurance program. Id. at 162.

48. Va. Code § 65.2-400 (1991).

Even if a claimant cannot satisfy the occupational disease requirements, recovery may nonetheless be available. Workers, including firefighters, may also receive compensation for an "ordinary disease of life" if there is clear and convincing evidence, to a reasonable medical certainty, that the disease arose out of and in the course of employment, did not result from causes outside employment, and followed as an incident of occupational disease or is an infectious or contagious disease contracted during employment in certain health care capacities.[49]

Medical evidence is, of course, critical to satisfy these statutory definitions and to establish the requisite causal link between an occupational or ordinary disease and the work environment.[50] Legal scholars have noted that "controverted or unsuccessful cases will usually be found to involve, not the definition [of occupational disease], but a problem of proof: the question of whether these employment conditions in fact produced disability."[51] Indeed, the question of causation may be a difficult one to address. The National Institute on Occupational Safety and Health once stated before a congressional subcommittee that there may be only 11 diseases "that are uniquely occupational in origin; most others have 'multiple etiologies' and are seen both within and without the workplace."[52] Scientists, medical doctors, and jurists may also attach widely divergent meanings to "causation."[53] The Virginia judiciary has been somewhat lenient in its interpretation of medical testimony, however, declining to "substitute form over substance by requiring a physician to use the magic words . . . when the record is void of any evidence of non-employment factors" responsible for the injury or disease."[54]

Presumptive Coverage

But a claimant need not always carry the seemingly heavy burden of proving a causal relationship between disease and the work environment. Many states, including the Commonwealth, have adopted statutes providing presumptive coverage for certain classes of employees. In Virginia, salaried and volunteer firefighters suffering from heart or respiratory disease or hypertension are presumed to have contracted these conditions from the workplace. This presumption also applies to hypertension and heart disease in police officers, sheriffs, and city or deputy city sergeants of the City of Richmond. Presumptive coverage for firefighters and other public safety personnel is recognized for recovery from an employing locality. Payments by employing localities are deemed "exclusive of, and not dependent upon, any payment under the Line of Duty Act."[55] This presumption may be rebutted by the employer "by a preponderance of competent evidence." In addition, a preemployment physical examination must indicate that the

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49. Va. Code § 65.2-401 (1991). See also, Island Creek Coal Company v. Breeding, 6 Va. App. 1, 365 S.E.2d 782 (1988).

50. Ordinary Exclusion, supra note 32, at 169.

51. Larson, Workmens' Compensation Law 1B, § 41.33(a) (1991) [Volumes 1 and 1B hereinafter referred to as Larson].

52. E. Scott, "Workers' Compensation for Disease in Virginia: The Exception Swallows the Rule," 20 U. Rich. L. Rev. 161 at 179 (1985).

53. F. McGovern, "Toxic Substances Litigation in the Fourth Circuit," 16 U. Rich. L. Rev. 247 at 288 (1982).

54. Island Creek, supra note 49, at 788.

55. Va. Code § 65.2-402 (1991). Va. Code § 27-39; 27-40.1 (1992). The presumption language in § 27-40.1 formed the basis for the analogous provisions in the Virginia Workers' Compensation Act. City of Waynesboro v. Harter, 222 Va. 564, 281 S.E.2d 911 (1981).

firefighter was free of any such disease.[56] To overcome the presumption, the employer must establish a non-work-related cause; even where there is evidence of predisposing factors, a finding of compensability may nonetheless be upheld.[57]

In creating this statutory presumption for these safety personnel, the Virginia legislature "necessarily considered whether to shift the burden of proving the relationship between occupation and disease from the fireman to the employer. The legislature knew that the causes of pulmonary and cardiac diseases are unknown and that the medical community is split regarding the impact of stress and work environment on these diseases." The constitutionality of the rebuttable presumption for workers' compensation has also been upheld in the Commonwealth. The Virginia Supreme Court recognized that "the legislature was making a public policy judgment in its allocation of the burden of proof--the ultimate risk of nonpersuasion--in these cases . . . . As long as an employer may introduce evidence in rebuttal of the presumption, the employer's constitutional rights of due process have been protected." [58] The Virginia Workers' Compensation Commission received a total of 47 firefighter claims for presumptive coverage in 1991.[59]

Special compensation statutes for firefighters have gained support in over 20 states. The grounds for rebuttal of the work-related presumption vary dramatically among the states, from "a virtually irrebuttable to a virtually worthless presumption."[60] Described as a "burgeoning" phenomenon, these statutes typically extend the presumption of work-related disease to heart and respiratory ailments in firefighters and policemen.[61] In fourteen states, this evidentiary tool has been broadened to include cancer in firefighters. Seven states provide this coverage through workers' compensation laws; seven through pension or retirement statutes. Coverage is often contingent upon a showing that the cancer is a type caused by a known or suspected carcinogen, as defined by the International Agency for Research on Cancer; that the firefighter was exposed to a

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57. Va. Code § 65.2-402 C (1991). Similarly, recovery from the employing governing body is contingent upon a preemployment physical; the employing locality may also require an additional physical examination after the claim for recovery is advanced. Va. Code § 27-40.1 (1992).

57. Va. Dept. of State Police v. Talbert, 1 Va. App. 250, 337 S.E.2d 307 (1985). The Court of Appeals upheld presumptive coverage for a policeman's heart disease despite evidence of family history and smoking as contributory factors. The Court stated that effective rebuttal evidence must "exclude a work-related factor" and that, even when there are "conflicting medical opinions as the whether the employment caused the disease, the finding of the Commission as to causation is conclusive and binding." Id. at 308. See also, Larson, Workmen's Compensation Law 1B, § 41.47 (a) (1) (1990).

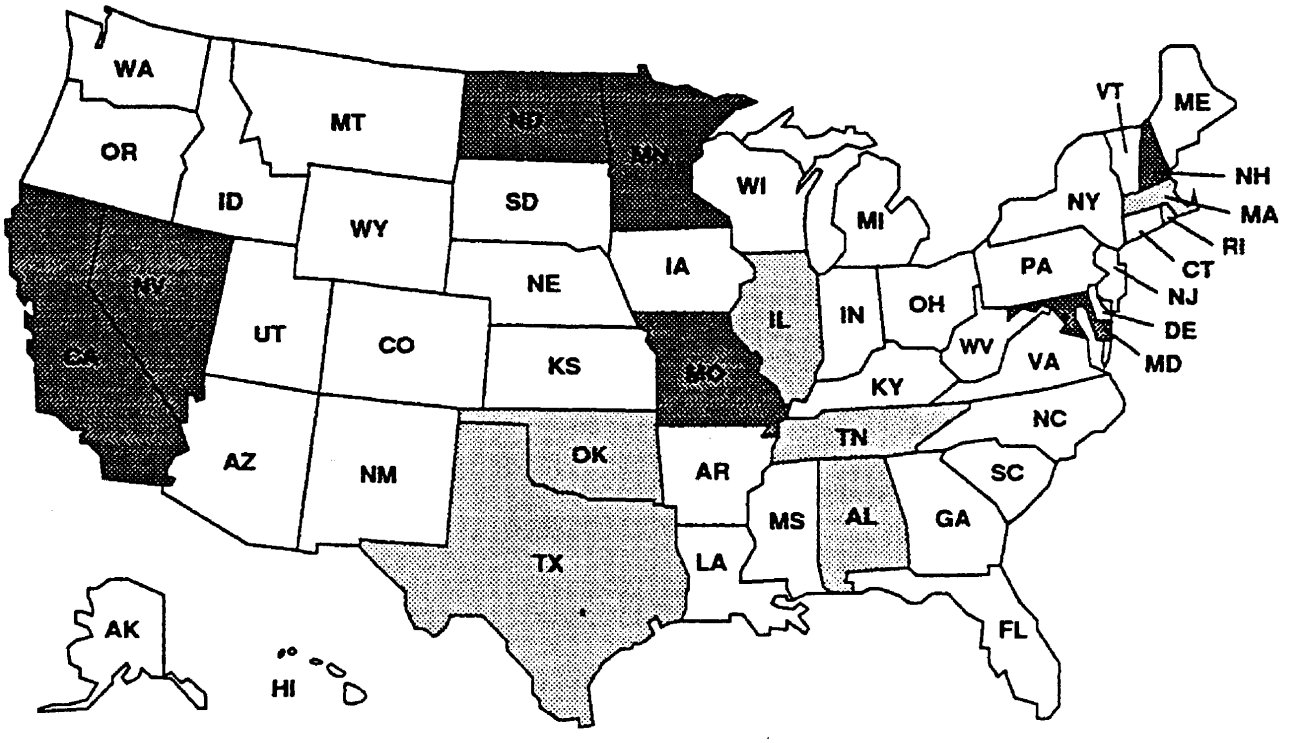
58. Fairfax Co. v. Newman, 222 Va. 535, 281 S.E.2d 897 at 900, 901 (1981). Citing a previous decision, the Virginia Supreme Court stated that the purpose of the presumption "'is to establish by law, in the absence of evidence, a causal connection between . . . disability from diseases and the occupation of a fire fighter. The effect of the presumption is to eliminate the necessity for proof by the claimant of causal connection.'" See Page v. City of Richmond, 218 Va. 844, 241 S.E.2d 775 at 776 (1978).

59. WCC Claims, supra note 38. Interestingly, cancer claims among all petitioners totaled only 5. Testimony of Lawrence D. Tarr, Chief Deputy Commissioner, Virginia Workers' Compensation Commission, September 8, 1992 committee meeting.

60. Larson, supra note 51, §§ 41.72, 41.72(a) (1990). In addition to Virginia, states offering some form of special recovery for firefighters include Alabama, California, Connecticut, Florida, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, Nevada, New Hampshire, New Jersey, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Vermont, and Wisconsin. Apparently there remains some debate as to whether some of these initiatives are part of a workers' compensation program or a pension program. Id. at §41.72, n.4.

61. Id. at § 41.72.

States' Presumptive Cancer Coverage for Firefighters



Workers' compensation statutes providing presumptive cancer coverage.

Pension/retirement/local government statutes providing presumptive cancer coverage.

Source: Division of Legislative Services 9/92

toxic substance in the line of duty; or that the cancer is one specifically covered by the particular statute. Although Florida does not offer presumptive cancer coverage, it has established a Firefighters, Paramedics, and Police Officers Health Project with the University of Miami School of Medicine to provide instruction to reduce the risk of cancer and coronary disease among emergency services personnel. A risk-reduction program is also added to the standards for state certification as a firefighter, paramedic, or police officer.[62]

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62. See Ala. Code § 11-43-144 (1991 Supp.); Cal. Code § 3212.1 (West 1992 Supp.); Ill.Ann. Stat. ch. 108 1/2 §§ 4-110.1 (1987); 6-112; 6-151.1 (1987); Ann. Code of Md., art. 101, § 9-503 (1992 Supp.); Mass. Gen. Laws Ann. ch. 32, § 94B (West 1992 Supp.; Minn. Stat. Ann. §176.011 (15)(c) (West 1992 Supp.); Vernon's Ann. Mo. Stat., § 287.067 (1992 Supp.); Nev. Rev. Stat. § 617.453 (1991); N.H. Rev. Stat. Ann. § 281-A: 17 (1991 Supp.); N.D. Cent. Code § 65-01-02 (17)(d) (1991 Supp.); Okla. Stat. Ann. § 49-110 (West 1992 Supp.); R.I. Gen. Laws § 45-19.1-3 (1988); Tenn. Code Ann. § 7-51-205 (1992 Supp.); Tex. Rev. Civ. Stat. Ann. art. 6243e.1 (6A) (1992 Supp.); 1988 Fla. Laws § 112.185 (West 1992 Supp.); Me. Rev. State. Ann. tit. 39, § 189 (1) (1989).

IV. Conclusion

For the Virginia firefighter seeking workers' compensation for certain cancers not presently granted presumptive coverage, the challenge of proving causation may seem insurmountable. Although various cancers induced by work-related exposure to carcinogens may already merit recovery under current law, without the benefit of presumptive coverage, some firefighters may be discouraged from pursuing valid claims. Statistics directly linking firefighting to specific forms of cancer remain somewhat controversial, and Virginia-specific data addressing this issue, again, are limited. The need for broadening the existing presumption to include other cancers is somewhat unclear. While a statutory presumption that a particular disease or condition is indeed job-related may assist firefighters in asserting certain compensation claims, such a presumption does not--and, for constitutional purposes, could not--guarantee recovery under workers' compensation.

Determining the appropriateness and feasibility of extending the current presumption to certain cancers in firefighters necessitates examination of additional, specific data linking cancer and firefighter exposure to carcinogens; consideration of the appropriate weight to be accorded predisposing physical factors and conditions; further review of workers' compensation data regarding the number and outcome of firefighter cancer claims; examination of the need for and availability of improved protective gear and other prevention initiatives; and additional analysis of financial and policy implications for the Commonwealth and its public safety personnel. The joint subcommittee therefore makes the following recommendation:

RECOMMENDATION: *That the joint subcommittee studying increased mortality and cancer rates among firefighters in the Commonwealth be continued for one additional year.*

The testimony of firefighters, representatives of local governments, the Virginia Workers' Compensation Commission, and the Virginia Department of Fire Programs confirmed the variety and complexity of those issues that must be thoroughly examined and resolved to determine the appropriateness of expanding the current statutory presumption to include firefighter cancer. An additional year of study will afford the committee the opportunity to explore more fully the concerns of firefighters, localities, and the Commonwealth and to make recommendations that equitably balance these interests and needs.

Respectfully submitted,

Delegate Robert B. Ball, Sr., *Chairman*
Senator Madison E. Marye, *Vice Chairman*
Delegate Kenneth R. Melvin
Delegate Riley E. Ingram
Senator Charles L. Waddell
Senator Charles R. Hawkins
Denny W. Kelly, Sr.
Jim Thornton*
David E. Gossett
Dr. Walter F. Green III

* deceased

VEPCO v. Cogbill, 223 Va. 354, 288 S.E.2d 485 (1982).

Virginia Department of Fire Programs, 1991 Civilian and Fire Service Casualty Report.

Virginia Department of Fire Programs, Virginia Fire Department Profile (June 1992).

Virginia Industrial Commission, Claims by Nature of Injury (1991).

Va. Dept. of State Police v. Talbert, 1 Va. App. 250, 337 S.E.2d 307 (1985).

L. Winney, "Passive Smoke: The Overlooked Risk," Fire Engineering 68 (September 1990).

Zipton v. Workmen's Compensation Appeals Bd., 218 Cal. App. 3d 980, 267 Cal. Rptr. 431 (1990).

States' Presumptive Cancer Coverage for Firefighters

Alabama

Ala. Code § 11-43-144 (1991 Supp.) (Pension)

Covers:
- Firefighters employed by municipality; adds cancer as "occupational disease" compensable through local pension system

Conditions:
- Cancer must develop while in service of department
- Must show employment exposure to defined, known carcinogen (as defined by International Agency for Research on Cancer)
- Must show carcinogen "reasonably linked" to cancer

Other: Presumption may be rebutted by municipality by a preponderance of evidence that the cancer was caused by other means

California*

Cal. Code § 3212.1 (West 1992 Supp.) (Workers' Compensation)

Covers:
- active firefighting members of local fire departments, certain institutions of higher education, Department of Forestry and Fire Protection
- volunteer or salaried firefighters

Conditions:
- Cancer must develop while in service of department
- Must show employment exposure to defined, known carcinogen (as defined by International Agency for Research on Cancer)
- Must show carcinogen "reasonably linked" to cancer

Other: "Disputable" presumption; may be controverted by other evidence; extended after termination of service for 3 months for each full year of service, not to exceed 60 months

Illinois

Ill.Ann. Stat. ch. 108 1/2 §§ 4-110.1 (1987) (Firefighters' Pension Fund); 6-112; 6-151.1 (1987) (Firemen's Annuity Fund)

Covers:
- in localities having a population over 500,000, active firefighters who have completed 10 or more years of service and who are unable to perform duties due to disabling cancer; adds cancer as "occupational disease"
- in localities having a population under 500,000, active firefighters who have completed 5 or more years of service and who are unable to perform duties due to disabling cancer; adds cancer as "occupational disease"

Conditions:
- Cancer must develop while in service of department

Rhode Island R.I. Gen. Laws § 45-19.1-3 (1988) (Pensions)

Covers:
- state and certain municipal volunteer and salaried firefighters unable to perform duties due to cancer disability; certain retired firefighters
- defines "occupational cancer" as cancer arising out of employment due to exposure to smoke, fumes, or carcinogenic, toxic substances in performance of active duty

Conditions:
- Cancer must develop while in service of department

Other: Presumption unclear; apparently firefighter must still show disease arose out of employment

Tennessee Tenn. Code Ann. § 7-51-205 (1992 Supp.) (Local Government; Pensions)

Covers:
- regular and full-time firefighters in counties having a metropolitan form of government, an established form of compensation other than workers' compensation, and an ordinance authorizing a presumption

Conditions:
- Disease must result in hospitalization, medical treatment, disability, or death; preemployment physical must indicate free of cancer

Texas Tex. Rev. Civ. Stat. Ann. art. 6243e.1 (6A) (1992 Supp.) (Pensions)

Covers:
- active firefighters of department in incorporated cities having population of not less than 1.2 million; firefighter must have six years of employment

Conditions:
- Death or disability due to cancer; preemployment or pre-claim physical that free of disease

Other Special Firefighter Statutes

Florida 1988 Fla. Laws § 112.185 (West 1992 Supp.) (Public Officers)

- establishes the Florida Firefighters, Paramedics, and Police Officers Health Project within the University of Miami School of Medicine
- provides instruction to reduce the risk of cancer and coronary disease among emergency services personnel; adds a risk-reduction program to the standards for state certification as a firefighter, paramedic or police officer

Maine Me. Rev. State. Ann. tit. 39, § 189 (1) (1989) (Workers' Compensation)

- provides an exception to the three-year statute of limitations for firefighters filing a claim for occupationally-related cancer

*presumption under workers' compensation law

HOUSE JOINT RESOLUTION NO. 47

Establishing a joint subcommittee to study the increased mortality rate and the increased rate of certain types of cancer among firefighters which are related to their occupation.

Agreed to by the House of Delegates, March 5, 1992
Agreed to by the Senate, March 3, 1992

WHEREAS, it has been documented that firefighters are exposed to thousands of different toxic chemicals in the course of their work; and

WHEREAS, many of these chemicals are known to be carcinogens; and

WHEREAS, firefighters are exposed to a variety of agents such as cadmium and various hydrocarbons which may be associated with an increased risk for cancer; and

WHEREAS, mortality studies concerning firefighters have concluded that firefighters may be more likely to die from cancer; and

WHEREAS, in recognition of these mortality studies, many states have enacted presumptive cancer laws; and

WHEREAS, firefighters have a rate of job-related fatalities four times higher than workers in private industry; and

WHEREAS, it has been documented that firefighters have an increased incidence of brain, rectum, colon and skin cancer, as well as leukemia; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That a joint subcommittee be established to study the increased mortality rate and the increased rate of certain types of cancer among firefighters which are related to their occupation. The subcommittee shall also examine presumptive cancer laws enacted by other states to determine if such legislation would be beneficial to the citizens of the Commonwealth.

The joint subcommittee shall consist of ten members to be appointed as follows: three members from the House of Delegates to be appointed by the Speaker of the House; three members of the Senate to be appointed by the Senate Committee on Privileges and Elections; and four members, including one representative from the State Fire Chiefs Association of Virginia, one representative from the Virginia Association of Professional Firefighters, one representative of county government, and one representative of city government.

The joint subcommittee shall complete its work in time to submit its findings and recommendations to the Governor and the 1993 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

The indirect costs of this study are estimated to be $13,675; the direct costs of this study shall not exceed $8,100.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

- Cancer must be the type caused by employment exposure to heat, radiation, or known carcinogen (as defined by International Agency for Research on Cancer)

Maryland* Ann. Code of Md., art. 101, § 9-503 (1992 Supp.) (Workers' Compensation)

Covers:
- firefighters, fire instructors, and rescue squad personnel having 5 or more years of service and unable to perform duties due to cancer disability
- salaried and certain volunteer personnel

Conditions:
1. Throat, prostate, rectal, pancreatic cancer or leukemia
2. Must show contact with toxic substance in the line of duty

Massachusetts Mass. Gen. Laws Ann. ch. 32, § 94B (West 1992 Supp.) (Pension Laws)

Covers:
- paid firefighters

Conditions:
- Pre-employment physical revealing no cancer
- Cancer affecting skin, central nervous, lymphatic, digestive, hematological, urinary, skeletal, oral or prostate systems
- Cancer must result in total disability or death
- Cancer must be of type "in general" resulting from exposure to heat, radiation, or known or suspected carcinogen as defined by the International Agency for Research on Cancer.

Other: Rebuttable by preponderance of evidence that non-service connected risk factors caused incapacity.

Minnesota* Minn. Stat. Ann. §176.011 (15)(c) (West 1992 Supp.) (Workers' Compensation)

Covers:
- firefighters on active duty, unable to perform duties due to cancer disability

Conditions:
- Cancer of type resulting from exposure to heat, radiation, or known or suspected carcinogen as defined by the International Agency for Research on Cancer
- Must show carcinogen "reasonably linked" to disabling cancer

Missouri* Vernon's Ann. Mo. Stat., § 287.067 (1992 Supp.). (Workers' Compensation)

Covers:
- paid firefighters

Conditions:
- Must establish a direct causal relationship between cancer and employment

Other: Appears to add only carcinomas of the respiratory tract to heart/lung/hypertension statute as "occupational disease"

Nevada* Nev. Rev. Stat. § 617.453 (1991) (Workers' Compensation)

Covers:
- salaried and certain volunteer firefighters with 5 years of service

Conditions:
- Cancer must develop while in service of department; must result in temporary or permanent disability
- Must show employment exposure to defined, known carcinogen (as defined by International Agency for Research on Cancer)
- Must show carcinogen "reasonably associated" with disabling cancer

Other: Presumption may be "disputed" by other evidence; extended after termination of service for 3 months for each full year of service, not to exceed 60 months

New Hampshire* N.H. Rev. Stat. Ann. § 281-A: 17 (1991 Supp.) (Workers' Compensation)

Covers:
- volunteer, salaried, retired firefighters

Conditions:
- Preemployment physical/ medical evidence that free of disease required for "call" and volunteer firefighters
- Cancer must be of type resulting from exposure to heat, radiation, or known or suspected carcinogen as defined by the International Agency for Research on Cancer

Other: "Prima facie" presumption

North Dakota* N.D. Cent. Code § 65-01-02 (17)(d) (1991 Supp.) (Workers' Compensation)

Covers:
- full-time, paid firefighters having two years of continuous service

Conditions:
- Preemployment physical
- Cancer must arise out of employment and result from exposure to smoke, fumes, or carcinogenic, poisonous, toxic, or chemical substances

Other: Rebuttable by a showing of competent evidence

Oklahoma Okla. Stat. Ann. § 49-110 (West 1992 Supp.) (Firefighter Pension and Retirement System)

Covers:
- municipal firefighters disabled by cancer

Conditions:
- Preemployment physical/ medical evidence that free of disease

Other: Presumption of occurrence in line of duty rebuttable by "competent evidence"

1993 SESSION

LD9070124

HOUSE JOINT RESOLUTION NO. 428

Offered January 15, 1993

Continuing the Joint Legislative Subcommittee Studying Increased Mortality and Cancer Rates Among Firefighters in the Commonwealth.

Patron—Ball

Referred to the Committee on Rules

WHEREAS, exposure to a wide range of toxic chemicals and known carcinogens is commonplace in firefighting, and contact with these hazardous agents has been linked to a variety of cancers and may be responsible for high job-related fatalities among firefighters; and

WHEREAS, recognizing documented evidence of increased mortality and cancer rates among firefighters, the 1992 Session of the General Assembly adopted House Joint Resolution No. 47, establishing a 10-member joint subcommittee to study elevated mortality rates and increased rates of certain types of occupational cancers among firefighters; and

WHEREAS, directed to review work-related health risks and to examine presumptive cancer laws in other states "to determine if such legislation would be beneficial to the citizens of the Commonwealth," the Joint Subcommittee sought the input and expertise of firefighters as well as representatives of the Department of Fire Programs, the Workers' Compensation Commission, and municipalities; and

WHEREAS, the Joint Subcommittee examined a wide range of issues, including prevention and safety measures for firefighters, current initiatives benefiting workers in other high health risk jobs, Virginia workers' compensation law and policy, and national and Virginia-specific data documenting mortality and cancer rates among firefighters; and

WHEREAS, while a number of studies have linked firefighting to certain forms of cancer, Virginia-specific data documenting exposure, disease, death, and disability remains limited; and

WHEREAS, expanding the current statutory presumption provided by the Virginia Workers' Compensation Act (§ 65.2-100 et seq.) to include cancer as well as heart and respiratory disease in firefighters necessitates further review of specific data linking cancer and firefighter exposure to carcinogens, consideration of the appropriate weight to be accorded predisposing physical factors and conditions, and analyses of financial and policy implications for the Commonwealth, localities, and public safety personnel; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Joint Legislative Subcommittee Studying Increased Mortality and Cancer Rates Among Firefighters in the Commonwealth be continued for one additional year. The membership of the Joint Subcommittee shall continue as established by House Joint Resolution No. 47 (1992). Vacancies shall be filled by the Speaker of the House of Delegates, the Senate Committee on Privileges and Elections, and the Governor, as appropriate. In conducting its study, the Joint Subcommittee shall consider, among other things, (i) the potential fiscal impact of granting presumptive cancer coverage for salaried and volunteer firefighters, (ii) the need for a data collection system documenting exposure to carcinogens in fire emergencies, (iii) data documenting the frequency and outcome of claims for presumptive coverage in the Commonwealth and in states offering presumptive cancer coverage, and (iv) the adequacy of current firefighting procedures and protective gear in preventing or ameliorating exposure to carcinogens.

All agencies of the Commonwealth shall, upon request, assist the Joint Subcommittee in the conduct of its study.

The Joint Subcommittee shall submit its findings and recommendations to the Governor and the 1994 Session of the General Assembly in accordance with the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

The indirect costs of this study are estimated to be $10,650; the direct costs shall not exceed $7,200.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

Official Use By Clerks	
Agreed to By The House of Delegates	**Agreed to By The Senate**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
_____	_____
Clerk of the House of Delegates	Clerk of the Senate

BIBLIOGRAPHY

Statutory Authority

Ala. Code § 11-43-144 (1991 Supp.); Cal. Code § 3212.1 (West 1992 Supp.); Ill.Ann. Stat. ch. 108 1/2 §§ 4-110.1 (1987); 6-112; 6-151.1 (1987); Ann. Code of Md., art. 101, § 9-503 (1992 Supp.); Mass. Gen. Laws Ann. ch. 32, § 94B (West 1992 Supp.; Minn. Stat. Ann. §176.011 (15)(c) (West 1992 Supp.); Vernon's Ann. Mo. Stat., § 287.067 (1992 Supp.); Nev. Rev. Stat. § 617.453 (1991); N.H. Rev. Stat. Ann. § 281-A: 17 (1991 Supp.); N.D. Cent. Code § 65-01-02 (17)(d) (1991 Supp.); Okla. Stat. Ann. § 49-110 (West 1992 Supp.); R.I. Gen. Laws § 45-19.1-3 (1988); Tenn. Code Ann. § 7-51-205 (1992 Supp.); Tex. Rev. Civ. Stat. Ann. art. 6243e.1 (6A) (1992 Supp.); 1988 Fla. Laws § 112.185 (West 1992 Supp.); Me. Rev. State. Ann. tit. 39, § 189 (1) (1989); Va. Code §§ 9-153 *et seq.* (West 1989 and 1992 Supp.); 15.1-134; 15.1-136.1 *et seq.* (West 1989 and 1992 Supp.); 27-1 *et seq.* (West 1992); 65.2-100 *et seq.* (West 1991 and 1992 Supp.).

Other Authority

Aistrop v. Blue Diamond Coal Co., 181 Va. 287, 24 S.E.2d 546 (1943).

Badische Corp. v. Starks, 221 Va. 910, 275 S.E.2d 605 (1981).

Baggett Transportation Co. v. Dillon, 219 Va. 633, 248 S.E.2d 819 (1978).

Brown v. Caporaletti, 12 Va. App. 242, 402 S.E.2d 709 (1991).

Bureau of Health Statistics, Research and Evaluations, Massachusetts Department of Public Health, Cancer Incidence Among Massachusetts Firefighters 1982-1986 (1990).

City of Waynesboro v. Harter, 222 Va. 564, 281 S.E.2d 911 (1981).

Division of Legislative Services, staff memorandum, Summary of Studies and Data on Cancer Incidence in Firefighters (October 1992).

Door Systems, Inc. and Erie Ins. Exchange v. Hood, 238 Va. 578, 385 S.E.2d 858 (1989).

Fairfax Co. v. Newman, 222 Va. 535, 281 S.E.2d 897 (1981).

E. Feuer and K. Rosenman, "Mortality in Police and Firefighters in New Jersey," American Journal of Industrial Medicine 517 (1986).

J. Giarrizzo, "Cancer and Firefighting," Fire Engineering 65 (September 1990).

Grand Union Co. v. Bynum, 226 Va. 140, 307 S.E.2d 456 (1983).

Graybeal v. Montgomery Co., 216 Va. 77, 216 S.E.2d 52 (1975).

N. Heyer, Cohort Mortality Study of Seattle Fire Fighters 1945-83 (1988).

Hill City Trucking Co., Inc. v. Christian, 238 Va. 735, 385 S.E.2d 377 (1989).

Institute for Cancer and Blood Research, Cancer Mortality Among Los Angeles City Firefighters (1982).

IAFF Department of Occupational Health and Safety, Summary of the Views of Firefighter Mortality Studies.

IAFF Department of Occupational Health and Safety, Summary of the Views on Occupational Cancer in Firefighters.

Island Creek Coal Company v. Breeding, 6 Va. App. 1, 365 S.E.2d 782 (1988).

Larson's Workmen's Compensation Law 1 (1990); 1B (1991).
F. McGovern, "Toxic Substances Litigation in the Fourth Circuit," 16 U.R. L. Rev. 247 (1982).

Meeting summaries, September 8, 1992, and December 9, 1992 joint subcommittee meetings.

Metcalf v. A.M. Express Moving System, 230 Va. 464, 339 S.E.2d 177 (1986).

Morris v. Morris, 238 Va. 578, 385 S.E.2d 858(1989).

Note, "The Ordinary Disease Exclusion in Virginia's Workers' Compensation Act: Where Is It Going After Ashland Oil Co. v. Bean?" 18 U.R L. Rev. 161 (1983).

Olsten of Richmond v. Leftwich, 230 Va. 317, 336 S.E.2d 893 (1985).

Page v. City of Richmond, 218 Va. 844, 241 S.E.2d 775 (1978).

Pendleton v. Flippo Constr. Co., 1 Va. App. 381, 339 S.E.2d 210 (1986).

Pittsburgh Plate Glass v. Totten, 238 Va. 578, 385 S.E.2d 858 (1989).

Report of the Joint Subcommittee Studying Compensation for Byssinosis Victims, House Document No. 8 (1982).

Report of the Joint Subcommittee Studying Fire Prevention Services in the Commonwealth, Senate Document No. 16 (1989).

Report of the Virginia Advisory Legislative Council on Fire Prevention and Protection, Senate Document No. 14 (1978).

Report of the Virginia Advisory Legislative Council on Fire Service Training Facilities, House Document No. 15 (1977).

Report of the Virginia Advisory Legislative Council, Volunteer Rescue Squad Headquarters and Statewide Fire Service Training Facility, Senate Document No. 19 (1975).

L. Rosenstock, P. Demers, N. Heyer, and S. Barnhart, Harborview Occupational Medicine Program, University of Washington, Northwest Fire Fighter Mortality 1945-1983 (1987).

L. Rosenstock and P. Demers, Occupational Medicine Program, University of Washington, Northwest Firefighters Mortality Study: 1945-1989 (1991). E. Scott, "Workers' Compensation for Disease in Virginia: The Exception Swallows the Rule," 20 U.R.L. Rev. 161 (1985).

D. Thompson, "The Danger in Doomsaying," Time 61 (March 9, 1992).

Thore v. Chesterfield Co., 10 Va. App. 327, 391 S.E.2d 882 (1990).

J. Vena, "Mortality of a Municipal-Worker Cohort: Fire Fighters," American Journal of Industrial Medicine 671 (1987).